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REPORT

TO THE

SENATE

ON

SEVERAL WATERSHED PROPOSALS

SUBMITTED BY THE

SOIL CONSERVATION SERVICE

FROM THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

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INTRODUCTION

This report seeks to fulfill the obligation to inform the Senate and the Executive Branch of initiatives taken by the Committee on Environment and Public Works. Two recent actions of the Committee with respect to P.L. 83-566, small watershed projects: approval of an increase in the appropriations limitations on four previously authorized small watersheds projects and approval of resolutions authorizing two new small watersheds projects are detailed in this report.

GENERAL STATEMENT

The authority for Soil Conservation Service small watershed plans is Public Law 83-566, the Watershed Protection and Flood Prevention Act of 1954, as amended. Under the provisions of that Act, projects either costing over $5 million or those involving structures with a storage capacity of greater than 2,500 acre-feet must be approved by resolution by the appropriate House and Senate Committees.

These watershed protection projects fall into two categories:

(1) Plans involving a structure of greater than 4,000 acre-feet capacity require a resolution of approval by the Senate Committee on Environment and Public Works and the House Committee on Public Works and Transportation;

(2) Plans involving structures of less than 4,000 acre-feet capacity are reviewed by the congressional agriculture committees.

Since 1976, every resolution of the Committee on Environment and Public Works authorizing an SCS project has contained an appropriation ceiling limiting expenditures on the project to the cost estimate at the time of authorization, plus any ordinary cost increases due to inflation. To date, some 46 small watershed projects have been authorized by the Committee with this stipulation.

Recently, however, the SCS has been unable, in certain instances, to complete project construction within the authorized cost ceiling. They have therefore requested that the Committee increase the appropriations limitations in these instances so that work on the projects may proceed.

Subsequent to a September 26, 1985, hearing by the Subcommittee on Water Resources, the Committee granted SCS's request, and raised the cost ceiling on four previously authorized projects.

The Zuni Pueblo project deserves special note here. At this time, the benefit to cost ratio to complete this project is less than unity (0.9 to 1). However, since the project would possibly prevent flooding that could result in loss of life, the Committee chose to increase the cost limit. Construction on this project, as well as all others ap-

proved in this report, can now go forward unless the project costs exceed the project's economic benefits.

COMMITTEE LEGISLATION

Omnibus water resources legislation has been reported to the Senate by the Committee on Environment and Public Works both this Congress (S. 1567, The Water Resources Development Act of 1985) and during the 98th Congress. This legislation contains several provisions reforming certain aspects of the small watersheds program (P.L. 83-566).

The most significant of these reforms would require that any P.L. 83-566 project within this Committee's jurisdiction, whose Federal cost is above $10,000,000, must be authorized by an Act of Congress as opposed to committee resolution. This provision (section 205 of S. 1567) reflects the Committee's position that projects of such magnitude deserve the attention of the full Congress in the future. Thus, should this provision become law, a project such as West Fork of Big Creek, described herein, whose Federal cost is $14,238,4000, would have to be authorized by law prior to construction.

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
Washington, DC, October 16, 1985.

Hon. JOHN R. BLOCK,
Secretary, U.S. Department of Agriculture, Washington, DC.

DEAR MR. SECRETARY: In testimony before the Subcommittee on Water Resources of the Committee on Environment and Public Works on September 26, 1985, the Soil Conservation Service indicated that the cost of four small watershed projects previously authorized by Congress would exceed the authorized levels and would therefore need the consent of the Committee to complete there construction. The SCS also requested that the Committee approve resolutions authorizing construction of two new small watersheds projects.

The Committee on Environment and Public Works voted on October 10, 1985, to approve the higher cost levels of the previously authorized public Law 83-566 projects listed below. The new cost limits will be the Federal cost listed, plus or minus such amounts, if any, as may be justified by reason of the fluctuation in the costs of construction, as indicated by engineering cost indices applicable to the type of construction involved.

No construction on any of these projects shall go forward unless the economic benefits of the project exceed the costs of proceeding to project completion. The previously authorized projects for which higher cost levels were approved are:

—South Fork Watershed, Arkansas—$5,300,000, (using January 1985 prices)
—Upper Muddy Boggy Creek Watershed, Oklahoma—$11,500,000, (using January 1985 prices)
—Upper Mud River Watershed, West Virginia—$7,300,000, (using January 1985 prices)
—Zuni Pueblo Watershed, New Mexico—$11,700,000, (using January 1985 prices)

In addition, the Committee also approved resolutions authorizing the English Coulee Watershed and West Fork of Big Creek Watershed projects. Copies of these resolutions, as approved, are attached.

We would appreciate your keeping this committee informed of progress on these projects.

Sincerely yours,

LLOYD BENTSEN,
Ranking Minority Member.
ROBERT T. STAFFORD,
Chairman.

[99th Cong., 1st sess.]

U.S. SENATE,
Committee on Environment and Public Works.

COMMITTEE RESOLUTION

Resolved by the Committee on Environment and Public Works of the United States Senate, That pursuant to the provisions of Section 2 of Public Law 566, Eighty-third Congress, as amended, the project for flood prevention and watershed protection, in the English Coulee Watershed, Grand Forks County, North Dakota, is hereby approved substantially in accordance with the report of the Soil Conservation Service, Department of Agriculture, dated January, 1983, with the conditions that (1) the approval of appropriations for the project be limited to $2,493,500 the estimated Federal cost of the project as shown in the work plan for such project updated to current price levels, plus or minus such amounts, if any, as may be justified by reason of ordinary fluctuation in the cost of construction as indicated by engineering cost indexes applicable to the type of construction involved; and (2) the purposes served by the project shall be those set forth in the watershed work plan submitted for the project and the scope of the project purposes and of the project shall be substantially as set forth in such work plan.

ROBERT T. STAFFORD,
Chairman.

LLOYD BENTSEN,
Ranking Minority Member.

Adopted: October 10, 1985.

[99th Cong., 1st sess.]

U.S. SENATE,
Committee on Environment and Public Works.

COMMITTEE RESOLUTION

Resolved by the Committee on Environment and Public Works of the United States Senate, That pursuant to the provisions of Section 2 of Public Law 566, Eighty-third Congress, as amended, the project for flood prevention, recreation, agricultural and municipal water supply, and watershed protection, in the West Fork of Big Creek Watershed, Ringold and Decatur Counties, Iowa, and Harrison and Daviess Counties, Missouri, is hereby approved substantial-

ly in accordance with the report of the Soil Conservation Service, Department of Agriculture, dated June, 1984, with the conditions that (1) the approval of appropriations for the project be limited to $14,238,400 the estimated Federal cost of the project as shown in the work plan for such project updated to current price levels, plus or minus such amounts, if any, as may be justified by reason of ordinary fluctuation in the cost of construction as indicated by engineering cost indexes applicable to the type of construction involved; and (2) the purposes served by the project shall be those set forth in the watershed work plan submitted for the project and the scope of the project purposes and of the project shall be substantially as set forth in such work plan.

ROBERT T. STAFFORD,
Chairman.

LLOYD BENTSEN,
Ranking Minority Member.

Adopted: October 10, 1985.

DESCRIPTIONS OF WATERSHED WORK PLANS AUTHORIZED, BY THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS ON OCTOBER 10, 1985

WEST FORK OF BIG CREEK WATERSHED, MISSOURI AND IOWA

The West Fork of Big Creek Watershed covers 187,290 acres primarily in Harrison and Daviess Counties in Missouri, and a small portion in Ringgold and Decatur Counties in Iowa. The projects' benefits are flood control, watershed protection, agricultural and municipal water supply, and recreation. Project measures include one multiple purpose reservoir; 352 small floodwater retarding dams; 209 grade stabilization structures; and 354 acres of waterways or outlets; and extensive soil conservation work. The total project cost is $18,703,800 of which 76 percent or $14,238,400 is Federal cost. The benefit-cost ratio is 1.23 to 1 using a discount rate of 8⅜ percent.

	Average annual dollars	
	Benefit	Cost
Annual benefits and costs: [1]		
Watershed protection	$1,341,300	$852,000
Flood prevention	1,554,400	1,408,100
Multiple purpose dam:		565,400
Flood prevention	198,800	
Agricultural and municipal water supply	252,000	
Recreation	120,900	
Total	3,467,400	2,825,500
Benefit-cost ratio: 1.23:1.00		

[1] Discount rate of 8⅜ percent.

	Public Law 566 funds		Other funds		Total dollars
	Dollars	Percent	Dollars	Percent	
Capital costs: [2]					
Land treatment measures	$3,819,000	69.9	$1,646,100	30.1	$5,465,100
Structural measures:					
Flood prevention:					
Floodwater retarding dams	8,681,000	88.8	1,091,400	11.2	9,772,400
Multipurpose dam	953,600	37.9	1,563,800	62.1	2,517,400
Project administration	784,800	82.7	164,100	17.3	948,900
Total	14,238,400	76.1	4,465,400	23.9	18,703,800

[2] Price base—1985.

ENGLISH COULEE WATERSHED, NORTH DAKOTA

The English Coulee Watershed encompasses 73,664 acres in Grand Forks County, North Dakota. The primary project benefit is flood control. Project measures include one floodwater retarding structure; one diversion structure; 6.8 miles of modification of existing floodways; and 3.0 miles of new floodway. The total project cost is $4,012,600 of which $2,493,500 or 62.1 percent is Federal. The benefit to cost ratio is 1.11 to 1.0 at a discount rate of 8⅜ percent.

	Average annual dollars	
	Benefit	Cost
Annual benefits and costs: [1]		
Flood prevention	$395,800	$357,100
Benefit-cost ratio: 1.11:1.00		

[1] Discount rate of 8⅜ percent.

	Public Law 556 funds		Other funds		Total dollars
	Dollars	Percent	Dollars	Percent	
Capital costs: [2]					
Land treatment measures	$35,700	15.7	$191,300	84.3	$227,000
Structural measures:					
Flood prevention:					
Floodwater retarding and diversion structures	2,396,300	89.5	280,600	10.5	2,676,900
Floodway	0	0.0	1,021,800	100.0	1,021,800
Project administration	61,500	70.8	25,400	29.2	86,900
Total	2,493,500	62.1	1,519,100	37.9	4,012,600

[2] Price base—1985.

DESCRIPTIONS OF WATERSHED PROJECTS ON WHICH THE CEILINGS WERE RAISED BY THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS ON OCTOBER 10, 1985

SOUTH FORK WATERSHED PROJECT, ARKANSAS

The South Fork Watershed project consists of 44, 851 acres located in Montgomery County. It was approved for construction by resolutions adopted by the Committee on Public Works and Transportation of the House of Representatives on June 9, 1976 and by the Committee oin Environment and Public Works on the Senate on June 23, 1976.

The project plan provides for the installation of conservation land treatment practices, one multiple-purpose structure, and two floodwater retarding structures.

The project benefits are flood cotnrol and municipal and industrual water supply. The purpose and scope of the project will not be altered.

SCS reports that the items that have led to increased cost estimates are as follows:

1. Design and construction costs increased due to improved structural design criteria for earthen dams to meet dam safety

requirements, including an increase in the emergency spillway capacity, and installation of chimney drains.

2. Implementation of the National Environmental Policy Act of 1969, Public Law 91-190, has resulted in increased costs. Considerable additional personnel and approval time were necessary to assist sponsors in the water quality permit process.

According to SCS, local spsonsors have carried out their responsibilities on this project. One of the flood prevention sites, site 3, is currently under construction and the project is scheduled for completion by 1990. All landrights for the entire project have been acquired.

EVALUATION OF CHANGING NEEDS

Benefit/cost ratio percent interest	Federal fund authorization level 1975	Federal fund authorization level adjusted to 1985 for inflation only	Federal fund authorization level needed for project completion adjusted to 1985
6.125	$1,912,000	$2,987,000	$5,300,000
	1.3:1		0.9:1

When the remaining costs ($1,748,724) are compared with the average annual benefits forgone if the project was terminated ($245,000), the B/C ratio would be 1.2:1.

UPPER MUDDY BOGGY CREEK WATERSHED PROJECT, OKLAHOMA

The Upper Muddy Boggy Creek Watershed project consists of 207,674 acres in Pototoc, Hughes, Coal, and Pittsburg Counties in Oklahoma. The project was approved for construction by resolutions adopted by the Committee on Public Works and Transportation of the House of Representatives on June 9, 1976, and by the Committee on Environment and Public Works of the Senate on August 23, 1978.

The project plan provides for the installation of conservation land treatment practices and 36 single-purpose structures for flood prevention and sediment reduction.

The primary benefit is flood control.

The total installation cost (1978 price base) of the project at the time of authorization was estimated to be $7,198,000, of which local sponsors would furnish $2,855,000 or 40 percent. To date, 19 of the 36 planned structures have been constructed. Twelve of the remaining structures have been designed.

The purpose or scope of the project will not be altered. The SCS reports that the following factors have led to increased cost estimates:

1. Design and construction costs increased as a result of new structural design criteria for earthen dams made necessary by dam safety requirements. Costs were increased approximately 35 percent by these adjustments.

2. Archaeological finds required additional investigations and coordination with the Advisory Council on Historic Preservation and State Historic Preservation Officer.

3. National average construction indices, during the period 1978–1982, did not reflect the rapid increases in actual costs affecting this project. During this period, oil field drilling and road construction were at record levels. There was an acute shortage of contractors, and costs rose at a very sharp rate.

According to SCS, local sponsors have carried out their responsibilities on this project and are in a position to schedule construction of at least four structures at the present time. The sponsors are actively acquiring landrights for the additional structural measures.

EVALUATION OF CHANGING NEEDS

Benefit/cost ratio percent interest	Federal fund authorization level 1978	Federal fund authorization level adjusted to 1985 for inflation only	Federal fund authorization level approved for project completion adjusted to 1985
6.125	$4,343,000	$7,828,000	$11,500,000
	1.7:1		1.0

When the remaining average annual costs ($258,564) are compared with the average annual benefits forgone if the project was terminated ($354,750), the B/C ratio would be 1.4:1.

ZUNI PUEBLO WATERSHED PROJECT, NEW MEXICO

The Zuni Pueblo Watershed project consists of 12,786 acres, and is sponsored by the Zuni Indian Pueblo and the McKinley County Soil and Water Conservation District. The project was approved for construction by resolutions adopted by the Committee on Public Works and Transportation of the House of Representatives on June 9, 1976, and by the Committee on Environment and Public Works of the Senate on June 15, 1976.

The project plan provides for the installation of conservation land treatment practices and structural measures consisting of one floodwater retarding structure with associated outlet facilities.

The primary project benefit is flood control.

The total installation cost (1975 price base) of the project at the time of authorization was estimated to be $4,827,000 of which local sponsors would furnish $1,182,500 or 24 percent. The average annual benefits were estimated to be $312,370 and the resultant benefit cost ratio, using a 6⅛ percent discount rate was 1.3:1. The 1985 estimated Public Law 83-566 installation cost is $11,700,000. The local cost is $1,739,200. The updated benefit to cost ratio is 0.9:1.

The Bureau of Indian Affairs has assumed responsibility for providing archaeological clearance since the project site is all on the Zuni Pueblo land. The Soil Conservation Service (SCS), under authority of Public Law 93-291, will transfer up to 1 percent of total project installation cost to cover archaeological clearance responsibilities. Significant archaeological finds made in August, 1985, by BIA indicate that costs of further exploration may be significantly higher than estimated here.

The purpose or scope of the project will not be altered. The SCS says that the following items have led to increased cost estimates:

1. Changed criteria and guidelines for dam safety and revised excavation estimates in the emergency spillway area.
2. Geologic data not available during work plan preparation.
3. Construction costs in New Mexico on these type reservoirs have increased more rapidly than the national construction indices have indicated.

According to SCS, local sponsors have carried out their responsibilities on this project and landrights have been acquired for the proposed floodwater retarding structure.

EVALUATION OF CHANGING NEEDS

Benefit/cost ratio percent interest	Federal fund authorization level 1975	Federal fund authorization level adjusted to 1985 for inflation only	Federal fund authorization level needed for project completion adjusted to 1985
6.125	$3,645,000	$7,150,000	$11,700,000
Ratio	1.3:1		0.9:1

UPPER MUD RIVER WATERSHED PROJECT, WEST VIRGINIA

The Upper Mud River Watershed project consists of 61,590 acres in Lincoln and Boone Counties. The project was approved for construction by resolutions adopted by the Committee on Environment and Public Works of the Senate on August 11, 1982, and by the Committee on Public Works and Transportation of the House of Representatives on September 23, 1982.

The project plan provides for the installation of conservation land treatment practices and structural measures consisting of one multiple-purpose structure and water-related recreation facilities.

The project benefits are flood control and recreation.

The federal cost (1979 price base) of the project at the time of authorization was estimated to be $4,397,300. The average annual benefits were estimated to be $815,900 and the resultant benefit cost ratio, using a 7⅜ percent discount rate, was 1.1:1. The 1984 estimated Federal installation cost is $6,223,000. The 1985 estimated local cost is $4,747,900 or 43 percent of the total cost.

The purpose or scope of the project will not be altered. SCS reports that the following items have led to increased cost estimates:

1. Changed criteria and guidelines for dam safety.
2. A latent foundation condition not known during planning which was discovered during design investigations.

According to SCS, local sponsors have made substantial commitments to the project. These include a special countywide tax levy which is currently worth $704,000, a $500,000 commitment from Boone County, and $133,900 appropriated by the State of West Virginia. In addition, the sponsors have applied for a $250,000 grant from the Governor's Community Partnership Grants Program. The West Virginia Department of Highways is expected to assist with the needed road relocations.

EVALUATION OF CHANGING NEEDS

Benefit/cost ratio percent interest	Federal fund authorization level 1979	Federal fund authorization level adjusted to 1985 for inflation only	Federal fund authorization level approved for project completion adjusted to 1985
7.375	$4,397,300	$5,020,000	$7,300,000
Ratio	1.1:1		1.0:1

When the remaining average annual costs ($862,800) are compared with annual benefits forgone if the project was terminated ($864,900), the B/C ratio is 1.0:1.

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